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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,603	02/19/2002	Takemi Hasegawa	50395-134	2299
20277	7590	03/31/2004	EXAMINER	
MCDERMOTT WILL & EMERY 600 13TH STREET, N.W. WASHINGTON, DC 20005-3096			HOFFMANN, JOHN M	
			ART UNIT	PAPER NUMBER
			1731	
DATE MAILED: 03/31/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/076,603	<b>Applicant(s)</b> HASEGAWA ET AL.	
	<b>Examiner</b> John Hoffmann	<b>Art Unit</b> 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 17-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>xxx</u> . | 6) <input type="checkbox"/> Other: _____  |

***Election/Restrictions***

Applicant's election of Group I in Paper No. 24 Feb 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 17-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 24 Feb 2004.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 is directed to a method comprising three processes. 35 USC 101 permits inventions of only one process. The Patent Office will only issue a claim that is directed to only one process.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

From MPEP 2164.08(a) Single Means Claim

A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor.). When claims depend on a recited property, a fact situation comparable to Hyatt is possible, where the claim covers every conceivable structure (means) for achieving the stated property (result) while the specification discloses at most only those known to the inventor.

Presently, the claims are not single means claim. However the present claims are directed to every conceivable process for achieving the stated result – and thus is not deemed to be enabled as per In re Hyatt. Most particularly, the claims recite no steps. For example the “first process” is merely “for” forming holes – this would cover anything that that is used “for” forming holes – and it does not actually require a step of “forming holes”. Buying a drill bit could be “for” forming holes. Getting in one’s car to go to work, could be “for” forming holes. Paying one’s electric bill could be “for” forming holes – because one needs electricity to form holes. The same could be said for the other processes. There are no explicit steps in any of the claims. There is only an

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indication of an intended result – a result that is not actually required. In re Hyatt stands for the principle that there must be structure. Likewise for a method, there must be actual steps involved.

**Examiner's suggestion:**

Although there are various ways to overcome the above (101 & 112) rejections, it is suggested that the claims merely recite the explicit steps. For example: A method....comprising: forming holes...,heating the preform..., drying the holes..., and drawing the preform....

Another acceptable format: a first step comprising forming the holes, a second step comprising heating... etc. Examiner can be contacted at the below number to assist in creating language which overcomes the above rejections, if these suggestions are not reasonable for Applicant.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 lines 1 and 3 each refer to holes. But it is unclear if they are the same holes because: 1) line 1 refers to one or more holes but line 3 refers to “holes” (i.e. more than one); and 2) claim 2 refers “holes” which make it unclear which holes of claim 1 it refers back to.

Claim 3: there is no antecedent basis for “the holes having a closed end”. And most the require one hole with a closed end (although there may be more).

Claim 4: there is no antecedent basis for “the process for discharging”.

Claim 5: the term “evacuationing” is indefinite as to its meaning. Examiner could not find a definition for this term.

### ***Claim Objections***

Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 1 starts out with forming holes in a preform, however claim 16 does not form any holes in the preform, rather it is directed to creating a preform which has holes in it. In other words, claim 1 is directed to taking a preform and then making holes in it, and claim 16 has a preform in which there is no step of forming holes. Claim 16 is completely outside the scope of claim 1 – thus it changes the scope it does not further limit it.

Claim 16 is not further treated on its merits.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Takagi 5160522.

Col. 4, lines 51-54 disclose the step of forming holes – (this is the claimed “first process”). Col. 5 lines 7-14 discloses heating and evacuating and removal of impurities. It is well known that heating objects cause them to dry. Likewise the application of vacuum withdraws all gases including water vapor. Further water is an impurity. For these reasons it is deemed that Takagi’s process results in drying. Col. 5, lines 15-19 discloses the drawing of the preform into a fiber.

The preamble is deemed as giving meaning to the claims. The Takagi fiber has one or more holes. The holes are filled with a medium. From page 1, lines 12-13 of the specification it is clear that applicant intends “holey fibers” include holes that are filled with a medium, such as gas. This passage is deemed to include non-gases – such as solid mediums.

Claim 5 is clearly met (see col. 5, line 11 of Takagi).

Claim 12: see col. 4, lines 58-59.

Claim 14: refers to "the pressure in the holes". However, there is no prior mention of any pressure. It is deemed that the broadest reasonable interpretation of this limitation would be: if there is a pressure, then the pressure is adjusted. But since Takagi requires evacuating the bores, there is essentially no pressure. Therefore, since the "if" part of the conditional statement is not met, the limitations which follow are not required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi.

CI 6: Takagi does not disclose the temperature. It would have been obvious to heat to such a temperature because the softening temperature of glass is usually well above 800 C.

CI 15: It would have been obvious that to make the bores with a tool, because it would be essentially impossible to do it with one's hands alone.



Claims 2-4, 6-7, 10-11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi as applied to claim 1 above, and further in view of Yokota 4793842.

Claim 2: The Takagi holes are through holes because they go "Through a preform" (col. 4, line 48). However there is no disclosure of flowing a gas therethrough. However, impurities are removed – but there is no disclosure as to how that is done. Yokota discloses that water is one known impurity in the boring process, and that such causes an optical loss in the final fiber (see col. 1, lines 24-27, col 2, lines 27-28, and 52-56. Yokota discloses a method of removing the impurity: See example 1. It would have been obvious to use the Yokota cleaning method to remove impurities for the advantages that yokota discloses.

Claim 3 is met for the same reasons claim 2 is. As can be seen from Yokota figure 2 and the associated text, the drying gas remains when the end is closed off.

Claim 4: it would have been obvious to perform the process as many times as desired, depending upon how much fiber is desired. Alternatively, since there is no antecedent basis for the "the process for discharging..." the broadest reasonable interpretation of the claim would be: "if there is a process for discharging....then it/they are repeated. Since prior art has no discharging, the conditional result need not be present.

Claim 6: see col 5, line 60.

Claim 7: there is no indication as to the dew point of the gas. It would have been obvious to use as dry a gas as possible, because the purpose is to remove water, and wet gas would defeat the process.

Claim 10 is clearly met.

Claim 11: see col. 6, lines 54-64 of Yokota.

Claim 13: The dry etching of col. 5, lines 60-65 of Yokota occurs before the heating and drying of col. 6, lines 5-9.

***Claim Rejections - 35 USC § 103***

Claims 1,2,7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey 5152818.

Figure 1: features 14-14 are the holes that are made via "a first process" in the preform 1. Alternatively, the etching of features 14-14 to make the holes 58 (see figures 7-8) by "a first process". These features are disclosed at col. 5, lines 8-9, col 6, lines 1-12. Col. 7, lines 21-48 discloses an oven and drying and the drawing of the preform. It would have been obvious to turn on the oven and create heat, because one usually only puts things in ovens to heat them.

Claim 2 is clearly met.

Claim 7: there is no indication of the dew point in the Berkey drying gas. It would have been obvious to have the gas as dry as possible, because the purpose is to dry the preform. And it is impossible to dry something with wet air.

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Claims 8-9: see col. 7, line 24. One of ordinary skill would interpret "nitrogen" to be nearly 100% nitrogen – or at least industrially pure nitrogen.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kelleher is cited as showing it was known to make photonic band gap fibers by forming bores in glass.

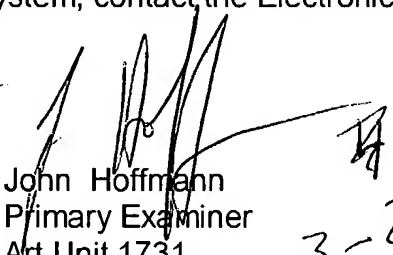
Hasegawa, Turpin, Yokokawa, and Yamauchi are cited as being directed to common knowledge in the hollow-preform processing art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
John Hoffmann  
Primary Examiner  
Art Unit 1731

3-25-04

jmh